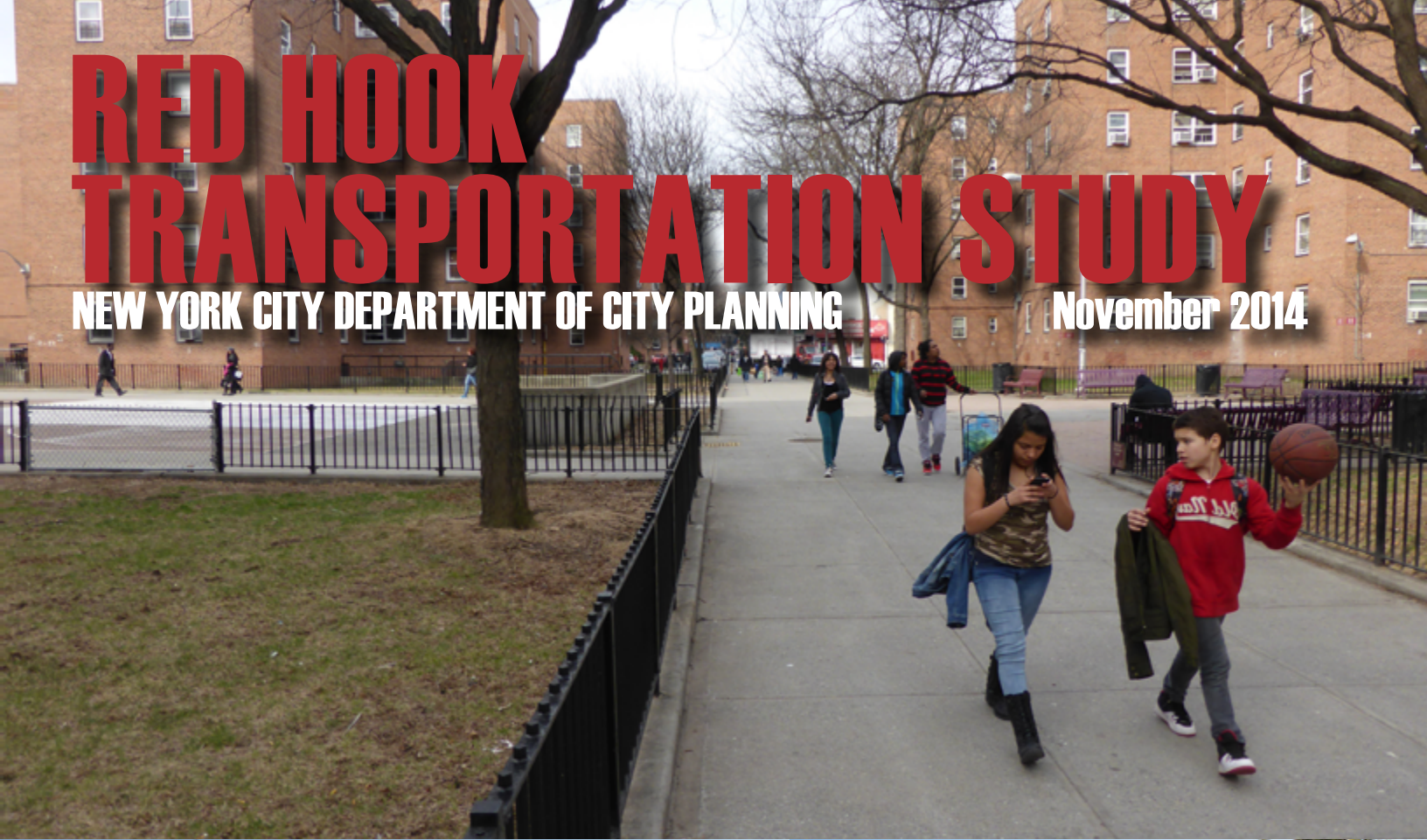


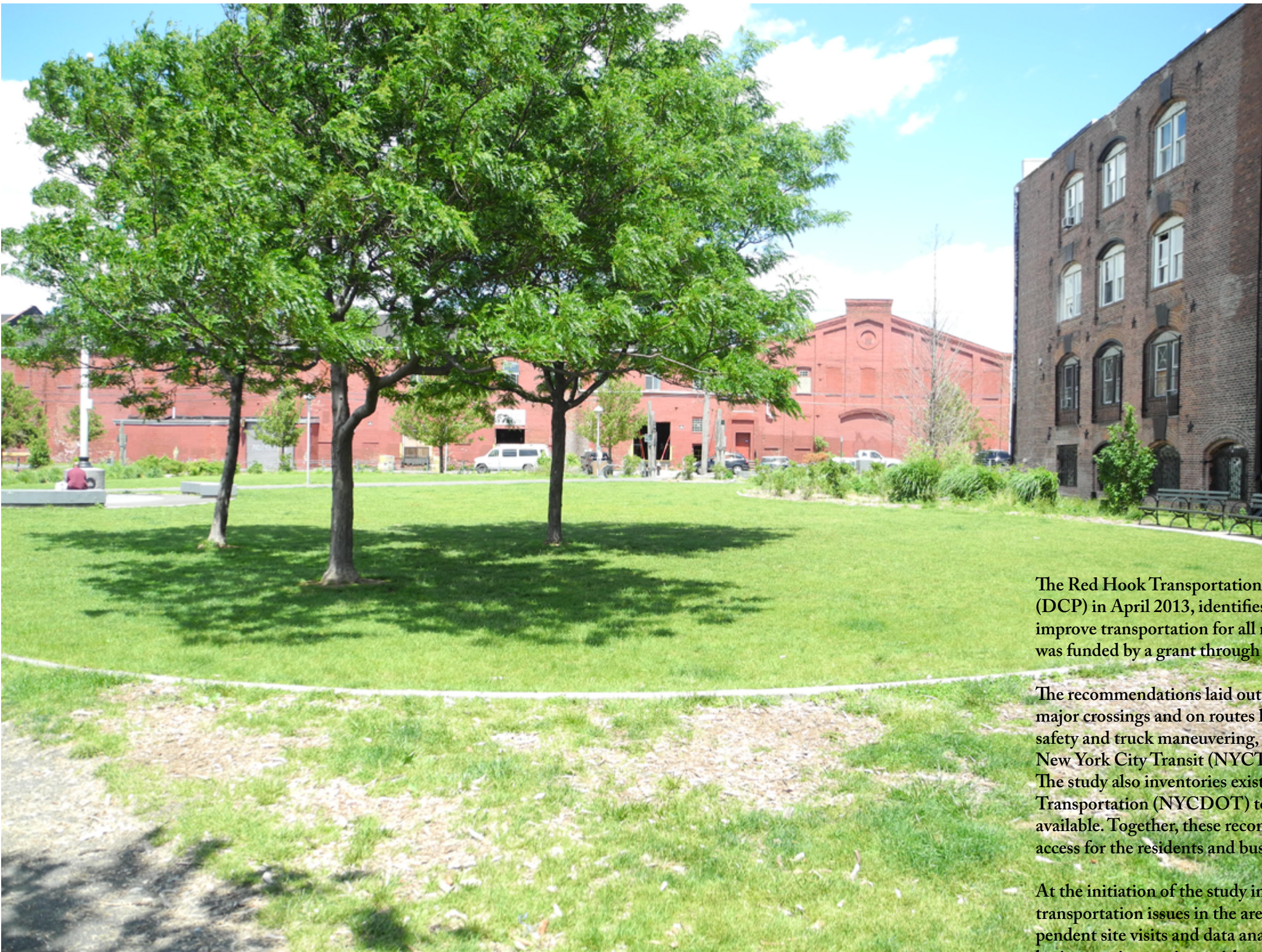
# RED HOOK TRANSPORTATION STUDY

NEW YORK CITY DEPARTMENT OF CITY PLANNING

November 2014







The Red Hook Transportation Study, launched by the New York City Department of City Planning (DCP) in April 2013, identifies incremental improvements that can be made by the City and MTA to improve transportation for all modes and users in the community of Red Hook, Brooklyn. This study was funded by a grant through the New York Metropolitan Transportation Council (NYMTC).

The recommendations laid out in this report include improvements to enhance pedestrian safety at major crossings and on routes leading to transit, changes to curbside regulations to improve traffic safety and truck maneuvering, additions and improvements to Red Hook's bicycle network, and MTA New York City Transit (NYCT) exploration of new or enhanced bus service to Lower Manhattan. The study also inventories existing roadways in disrepair to enable the New York City Department of Transportation (NYCDOT) to incorporate them into repairs or capital projects as funding becomes available. Together, these recommendations can contribute to improving the safety and transportation access for the residents and businesses of Red Hook.

At the initiation of the study in April 2013, DCP engaged with other agencies to identify the major transportation issues in the area, as well as current and pending projects. DCP also conducted independent site visits and data analysis. Based on this understanding of the study area, DCP held public brainstorming sessions with community members to solicit ideas from Red Hook residents, workers and business owners about their priorities for transportation issues and potential strategies to address them. The outreach process, and details about related studies can be found in Appendices I and II, respectively. Findings from this research were used to establish recommendations for improving transportation in Red Hook that are presented in this report.



# TABLE OF CONTENTS

PURPOSE OF THE STUDY	1
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EXECUTIVE SUMMARY	4
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## EXISTING CONDITIONS

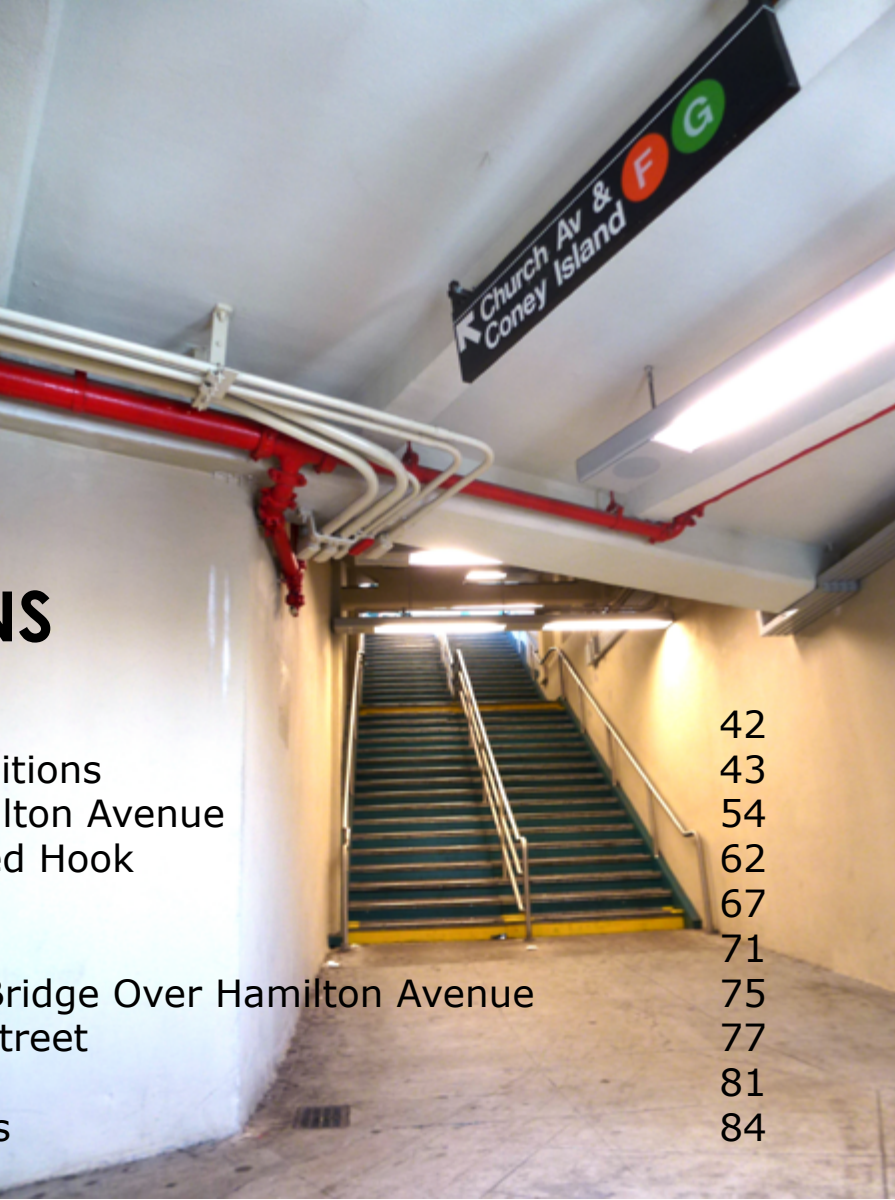
Red Hook in Context	12
Land Use and Zoning	16
Socioeconomic and Demographic Data	20
Transportation Data	24
Transportation Networks	28
Public Transportation and Ferries	38

## RECOMMENDATIONS

Introduction	42
Improvements to Pedestrian Conditions	43
Pedestrian Improvements to Hamilton Avenue	54
Changes to the Bus Network in Red Hook	62
Roadway Improvements	67
Improving the Bicycle Network	71
Improvements to the Pedestrian Bridge Over Hamilton Avenue	75
Mitigating Conflicts on Woodhull Street	77
Improvements to Truck Routes	81
Other Mass Transportation Options	84

## APPENDICES

Appendix I: Process and Data Collection	86
Appendix II: Other Red Hook Studies	88
Appendix III: Level of Service Analysis	92
Appendix IV: Bus Ridership Tables	98





# EXECUTIVE SUMMARY

## Existing Conditions

### Red Hook in Context

The neighborhood of Red Hook is located on a peninsula in the south of Brooklyn along the western waterfront with views of Governor’s Island, Lower Manhattan and the Statue of Liberty. It is relatively isolated from the City’s transportation network. The Gowanus Expressway cuts the neighborhood off from Brooklyn, there are no subway stations within its boundaries and bus service is limited. The primary study area for this project was the Red Hook peninsula southwest of the Gowanus Expressway. The secondary study area included parts of Carroll Gardens and the Columbia Street Waterfront District. After a period of decline in the second half of the 20th century, Red Hook has recently revived, attracting new investment and interest. As demonstrated during Hurricane Sandy in October 2012, Red Hook is vulnerable to storm-related flooding, which can affect the structural and mechanical systems of residential, commercial and manufacturing buildings.



Figure 1-1: Red Hook primary and secondary study areas.

### Zoning and Land Use

Zoning in Red Hook consists of manufacturing districts along an active working waterfront and residential districts in the interior, interspersed with smaller manufacturing districts. There are commercial overlays and parks in each of the three residential districts. A special mixed-use district is located on the southwestern waterfront containing a Fairway supermarket which opened in 2006. The manufacturing districts around the waterfront are characterized largely by industrial and transportation uses. An IKEA furniture store, which opened in 2008, is located on the south shore in an M1 district. The R6 district and the eastern R5 district contain the New York City Housing Authority (NYCHA) development, Red Hook Houses, and the western R5 district includes residential and commercial uses along the Van Brunt Street corridor. The Southwest Brooklyn Industrial Business Zone was designated by the administration of Mayor Michael Bloomberg in 2005. This IBZ runs along the waterfront from the Columbia Street Waterfront District, through Red

Hook and Gowanus and down through Sunset Park. It creates favorable conditions for the operation and growth of industrial businesses. There are a number of notable parks in Red Hook including Coffey Park and the large Red Hook Recreation Area, which includes a swimming pool and multiple soccer fields and baseball diamonds.

### Socioeconomic and Demographic Data

While Red Hook’s population experienced a substantial decline from 1950 to 2000, it remained stable through 2010 when it was 10,227, 68 percent of which was located in Red Hook Houses. The neighborhood is largely black and Hispanic, but from 2000 to 2010 the white population increased from 8 percent to 18 percent while the black population decreased from 43 percent to 34 percent and the Hispanic population decreased from 47 percent to 43 percent. From 2000 to 2010, median household income increased significantly in locations along the waterfront and around Van Brunt Street while it remained below \$30,000 per year in Red Hook Houses.

### Transportation Data

The residential population of Red Hook largely relies on public transportation to get to work (61 percent). Residents have long commutes to work and households have a low rate of vehicles available at 25 percent compared to the rest of the city at 45 percent. Workers commuting to Red Hook largely drive to work and have shorter commutes than residents. However, from 2000 to 2010, the data suggests that Red Hook workers have replaced autos, to some degree, with public transportation. This could be related to jobs generated by IKEA, Fairway and related services.

### Transportation Networks

The Gowanus Expressway is the only limited access highway in Red Hook. Major roadways in Red Hook consist of Hamilton Avenue and Van Brunt, Clinton, West 9th, Smith and Court streets. Significant local roadways in Red Hook include Bay, Beard, Lorraine and Columbia streets.





Red Hook contains a number of local truck routes which largely run around the exterior of the neighborhood, on Hamilton Avenue and through the current and former industrial areas. On-street parking regulations in Red Hook are similar to those in other mixed-use neighborhoods in the city with daylighting (prohibiting parking at certain corners to increase visibility and facilitate wide turns) playing a significant role in Red Hook. The neighborhood is also characterized by dozens of off-street parking facilities including several bus depots.

Major pedestrian thoroughfares include Van Brunt, Richards, Columbia, Clinton, Bay, Lorraine, Wolcott and Centre streets and Centre Mall. Local streets around IKEA and Fairway also see a significant amount

of pedestrian traffic as do the streets between Red Hook Houses and Hamilton Avenue. While the New York City Department of Transportation (NYCDOT) is currently installing a segment of the Brooklyn Waterfront Greenway around the edge of Red Hook, the existing bicycle network is somewhat limited, with some routes in the eastern section.

From 2009 to 2011, a significant number of crashes involving autos, bicyclists or pedestrians occurred along Hamilton Avenue, while several other locations have seen moderate concentrations of crashes.

The project team worked with a consultant to conduct traffic counts

at eleven key intersections in Red Hook. For each intersection, a level of service (LOS) analysis was performed. For results of the LOS analysis, see Appendix III.

**Public Transportation and Ferries**

The New York City Transit (NYCT) operated F and G trains make two stops close to Red Hook: Carroll Street and Smith-9th Streets. Both require traveling significant distances for many Red Hook residents. In addition, the neighborhood is served by the NYCT-operated B57 and B61 buses. New York City Water Taxi also operates a ferry from Manhattan to IKEA and IKEA operates a shuttle bus between its store and local subway stations.



**Recommendations for Improving Transportation**

The project team undertook a comprehensive survey of all street and pedestrian conditions in the primary study area. The goal of the survey was to understand and assess the street environment and to make a series of recommendations that focus on improving safety, access, mobility and livability for residents and workers in Red Hook. Data was collected on issues related to pedestrian facilities such as missing or damaged sidewalks, missing street signage, damaged roadway surfaces and missing striping, public transportation infrastructure and scheduling, safety issues such as conflict points between transportation modes, unmaintained areas with overgrown plants and vegetation and street design.

Many of the recommendations in this report need to be undertaken by implementing government agencies such as NYCDOT and NYCT. While the availability of funds is limited, this report can be used for guidance and for establishing priorities when funding does become available. The information gathered from the comprehensive street survey was sent to NYCDOT so that it could be incorporated into their regular maintenance schedule which will enable them to coordinate repairs and improvements.

**Improvement of Pedestrian Conditions**

Poor pedestrian conditions exist throughout Red Hook. The goal of the pedestrian conditions section is to highlight all locations that need improved pedestrian facilities and to explain why they need improvement, so as to provide the community with the basis to advocate for improvements and other changes to the streetscape.

Data gathered on pedestrian conditions was recorded in five maps for use by the community. Each map shows a different subsection of the primary study area, contextualizing the pedestrian environment in each. Poor pedestrian conditions included sidewalks that were absent or in disrepair, vehicles blocking sidewalks, vegetation issues and other areas of concern. Emphasis was placed on describing how each area is used by pedestrians and, on that basis, what kinds of fixes are important and why. This section provides the community with an overview on each area that can guide improvements.



**Pedestrian Improvements to Hamilton Avenue**

Hamilton Avenue—with the elevated Gowanus Expressway above and connections to the Hugh L. Carey Tunnel, the Brooklyn-Queens Expressway and the Red Hook industrial waterfront—is an important major roadway that not only connects Red Hook with adjacent neighborhoods, but also separates it. Hamilton Avenue is dominated by vehicles and trucks passing through the area, which makes the



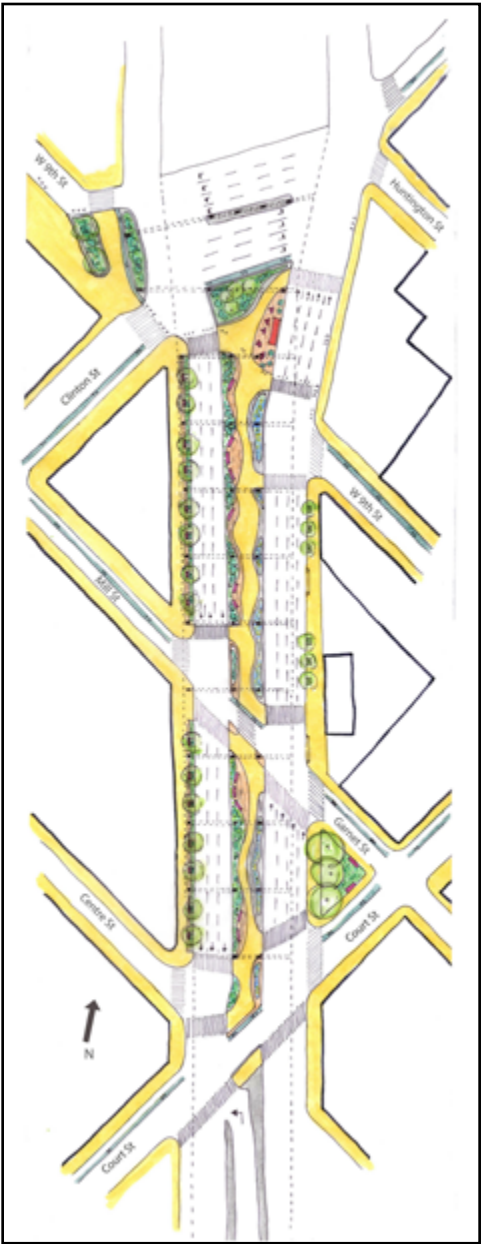


Figure 1-2: Proposed redesign of Hamilton Avenue.

pedestrian environment unpleasant and potentially unsafe to use. The project team found inadequate pedestrian crossings, pedestrian facilities in disrepair and insufficient lighting underneath the Gowanus. In order to enhance the pedestrian environment on Hamilton Avenue, this report recommends the following five treatments:

- Create a buffer between pedestrians and vehicles in the right-hand lane on the southeast-bound side of Hamilton Avenue

- between Clinton Street and Centre Street.
- Implement traffic calming measures at the intersection of Hamilton Avenue and West 9th Street.
- Redesign the median under the Gowanus Expressway to be more accessible and hospitable for pedestrians. This report offers a preliminary design, which was completed in collaboration with the Design Trust for Public Space and includes a pedestrian walkway with green plantings and vegetation, seating areas and improved drainage.
- Property owners should repair damaged pedestrian infrastructure adjacent to their properties.
- The feasibility of installing additional pedestrian crossings across Hamilton should be studied at these locations:
  - West 9th Street
  - Mill Street
  - Centre Street
  - Court Street

**Changes to the Bus Network in Red Hook**

Red Hook has inadequate access to public transit. During outreach meetings for this project, there was widespread community support for a direct bus connection from Red Hook to Lower Manhattan. DCP’s analysis of available ridership data suggests such a bus connection would significantly improve transit options for people inside and outside of Red Hook. This report recommends the following:

- New York City Transit should study the feasibility of extending an existing bus route between Lower Manhattan and Red Hook via the Hugh L. Carey Tunnel. DCP’s preliminary analysis indicates that the M22 would be a viable option.
- The bus study should include an analysis of running a shuttle bus during peak travel periods as an alternative option. While this is not DCP’s preferred option, it may be more feasible from a cost perspective.
- Add seating and shelters at selected bus stops in the area.

While there is currently no funding available for such a route extension, these recommendations were included in this report in order to provide the Red Hook community with the basis to advocate for these changes as funding becomes available.

**Roadway Improvements**

Many streets throughout Red Hook are in need of design and maintenance improvements to enhance safety, accessibility, and mobility for all users. Many of the streets also sustained damage from



Hurricane Sandy flooding. One of the unique characteristics of the neighborhood is the several cobblestone streets. While these historic streets preserve the neighborhood character, they also create hazards if they are not properly maintained. This section provides a map of significant roadway issues as well as a series of treatments to improve specific streets.

The sections of Lorraine and Bay streets between Columbia and Clinton streets where no pedestrian crossings exist were

analyzed. This report makes the following recommendations:

- An evaluation should be done of installing traffic signals at Hicks and Henry Streets.
- Curb extensions and bulb-outs should be installed at selected intersections.
- Areas with faded markings should be restriped.

On Richards Street, this report recommends the following:

- Restripe faded street markings and bring street pavement to a state of good repair.
- Conduct further evaluation to determine the feasibility and potential location of additional pedestrian crossings.
- Install traffic calming measures.

On Ferris Street, which is used heavily by trucks, this report recommends improved maintenance.

The report lays out several options for the community to consider in dealing with damaged cobblestone streets. They are as follows:

- Identify streets to use expense funding for repairs and upgrades.
- Create paved crosswalks on cobblestone streets where necessary for pedestrian safety.
- Pave over cobblestones with asphalt to even out streets and reduce wear on vehicles.
- Repurpose the cobblestones for other uses.
- Preserve the cobblestones for future use.

**Improving the Bicycle Network**

The New York City bicycle network of connected lanes and paths provides limited access in and to Red Hook. The Brooklyn Waterfront Greenway, which will eventually connect the entire Brooklyn waterfront, is currently being installed. While this will be a significant and remarkable addition to the bike network in the area, additional access points to the greenway as well as east-west connections are needed in the neighborhood. This report makes the following recommendations:

- A shared lane should be installed on Wolcott Street extending to the western



- waterfront.
- The existing route on Bay Street should be restriped.
- The West 9th Street bike route in Carroll Gardens should be extended southwest across Hamilton Avenue to connect with the Columbia Street route.
- The community should work with NYCDOT to identify appropriate sites to install additional bike racks. This report identifies some potential locations.
- Additional daylighting should be installed at the intersection of Van Brunt Street and Sullivan Street in order to mitigate the high number of bicycle crashes at this location.



### Improvements to the Pedestrian Bridge Over Hamilton Avenue

There is a pedestrian bridge over Hamilton Avenue between Luquer and Nelson streets connecting the northeastern and southwestern sides of Hamilton Avenue. This bridge is in a state of disrepair, lacks lighting and is unwelcoming. This report recommends the following steps:

- Additional lighting should be installed, an initiative NYCDOT is already examining.

- Pedestrian amenities like handrails and trash cans should be provided.
- Existing fencing should be fixed or transparent fencing should be installed to improve visibility on the bridge.
- An approach should be developed to improve the pedestrian experience of the bridge with an art installation, a mural depicting the history or uniqueness of Red Hook or a sound installation to mask noise from the expressway.

### Mitigating Conflicts on Woodhull Street

Woodhull Street is a wide two-lane road that passes over the Hugh L. Carey Tunnel portal and provides a 180 degree, one-way, U-turn at the northwestern edge of Hamilton Avenue. This street is characterized by conflicts between motorists, bicyclists and pedestrians. This creates potentially unsafe conditions and the potential for crashes. This report recommends the following treatments to mitigate these conflicts:

- Signage should be improved to direct cyclists to Summit and Bowne streets as well as the Brooklyn Waterfront Greenway, streets which are more suitable for cyclists.
- Further evaluation should be done on whether to install a new signal at the intersection of Woodhull Street and northbound Hamilton Avenue.
- The pedestrian area on the north side of the intersection should be expanded and used for additional green space.
- Further evaluation should be done on adding pedestrian crossings across Bowne Street and southbound Hamilton Avenue.
- Bollards should be installed in the striped triangle between Hamilton Avenue and Bowne Street.

### Improvements to Truck Routes

Red Hook's truck routes are important to the businesses that operate in the neighborhood. The streets these routes run on, however, are often congested. Two significant problems along the truck routes are the inability of large trucks to make turns onto small local streets and the congestion caused by double-parked trucks during loading periods on Van Brunt Street. This study recommends the following:

- Daylighting should be installed or existing daylighting should be reinforced at several key intersections where this problem was observed.
- Local businesses should work with NYCDOT to establish areas for loading zones along Van Brunt Street between Pioneer and Coffey streets.

### Other Mass Transportation Options

Red Hook generally lacks mass transportation options. This report's recommendation for NYCT to conduct a study on extending a bus route from Manhattan to Red Hook would greatly improve public transportation into the central business district in Manhattan. Red Hook community members have also expressed sentiment in favor of increased ferry service and creating a streetcar network in Red Hook. The *Comprehensive Citywide Ferry Study* was conducted in 2011 by NYHarborWay and the New York City Economic Development Corporation (EDC) with assistance from NYCDOT, and it found that increased ferry service was not currently feasible. This study is being updated and the preliminary report indicates that Red Hook is still being considered as an option for increased ferry service. Also in 2011, NYCDOT conducted the Brooklyn Streetcar Feasibility Study, which concluded that a streetcar in Red Hook was not feasible. The study indicates that evaluation of Red Hook for a potential streetcar system should be revisited when residential developments and employment densities increase in the neighborhood.



### Next Steps

Many of the recommendations in this report can be undertaken by implementing government agencies such as NYCDOT and NYCT. This report can be used for guidance and for establishing priorities. Red Hook community groups can play a vital role in ensuring that improvements are made in the way that best benefits the people who live and work in Red Hook. DCP will continue to serve as a liaison in ongoing coordination efforts with relevant community groups and operational agencies to prioritize and implement the study's recommendations.